Enhancing Peer Interaction among Children with Intellectual Disability

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Section-I

Introduction

Every child is a unique flower which makes this world a beautiful garden. Children are roots of responsibility and wings of independence but children with disabilities are like butterflies with impaired wings, they are just as beautiful as other but need help to spread their wings. According to **WHO (2012)** disability is an umbrella term, covering impairments, activity limitations, and participation restrictions. Activity limitation is difficulty encountered by individuals in executing task or action, while participation restriction is problem experienced by individual in involvement in life situations. Thus, disability is a complex phenomenon, reflecting an interaction between features of a person's body and features of the society in which he or she lives. Disability may be present from birth, or occur during a person's lifetime but in both cases it affects the existence and self worth of the person in adverse manner.

Disability is the consequence of impairment that may be physical, cognitive, sensory, emotional, developmental and intellectual or some combination of these. Researcher in the field of special needs highlighted that children with disabilities generally have poorer health, lower education achievements, fewer economic opportunities and higher rates of poverty than children without disabilities. This is largely due to the lack of services available to them and the many obstacles they face in their everyday lives. According to the **World Health Survey (2008)** around 785 million (15.6%) persons 15 years and older live with a disability out of which 110 million people have very significant difficulties in functioning. Likewise the report of **Global Burden of Disease (2004)** estimated a figure of around 975 million disable people in world out of which 190 million (3.8%) have "severe disability". It also reported that around the world there are 95 million (5.1 %) cases of childhood disabilities (0–14 years).

In this era of advancement of medical sciences unearthed various forms of impairments and disabilities which are beyond the imagination of a normal human. Whether a small cell is impaired or a major part of body is impaired, the disability caused by it has potential to turn someone's world upside down. According to **DSM-IV-TR (2000)** intellectual disability is one

of the developmental disabilities which affect the most important organs needed for the survival, “The Brain”. It primarily affects the way people learn and understand. With individual differences and variation in the degree of severity, children with intellectual disability can learn and develop new skills and change behaviour but will usually need assistance to do so. Earlier the terms “Mental handicap” or “Mental retardation” were used for intellectual disability. It is a life-long disability, which cannot be cured but the negative effects of intellectual disability can be reduced by appropriate support and guidance, opportunities to learn effectively and services matched to the children’s needs.

According to **AAIDD (2009)** intellectual disability is a disability that occurs before age 18. It is characterized by significant limitations in intellectual functioning and adaptive behavior as expressed in conceptual, social and practical adaptive skills. In other words intellectual disability is mental sub normality which interferes with the process of understanding and learning. Though Intellectual disability is a type of disability but it can further be categorized on the basis of degree of severity. Every intellectually disable child is unique; even two children belonging to same categories are different from each other. Intellectual disabilities have two key diagnostic criteria. These are intellectual functioning (IQ) and adaptive functioning. Tests of adaptive functioning evaluate the social and emotional maturity of a child, relative to his or her peers. They also help to evaluate life skills and abilities. Now-a-days the most commonly used classification system for intellectual disability are DSM-IV-TR and DSM 5, main features of both classification systems are given in **Table 1**:

Table 1: DSM-IV-TR-Classification of children with intellectual disability

Degree of Severity	**DSM-IV-TR (Based on IQ Level)**	**DSM-V (Based on Adaptive Behavior)**
Mild	50-55 to approximately 70	Usually meet elementary academic levels or beyond, mostly self-sufficient with sufficient supports, can live independently within their communities with a minimal level of additional supports
Moderate	35-40 to 50-55	Have adequate communication skills, most self-

		care activities can be performed but may require extended instruction and support
Severe	20-25 to 35-40	Communication skills are very basic. Self-care activities require daily assistance. require safety supervision and supportive assistance
Profound	Below 20 or 25	Dependent upon others for all aspects of daily care. Usually 24-hour care and support are needed

Source: APA (2013)

According to the **Fifth edition of Diagnostic and Statistical Manual of Mental Disorders (DSM-V)**, three criteria must be met for a diagnosis of intellectual disability: deficits in general mental abilities, significant limitations in one or more areas of adaptive behavior across multiple environments (as measured by an adaptive behavior rating scale, i.e. communication, self-help skills, interpersonal skills, and more), and evidence that the limitations became apparent in childhood or adolescence. In general, children with intellectual disability have an IQ below 70, but clinical discretion may be necessary for individuals who have a somewhat higher IQ but severe impairment in adaptive functioning.

DSM-V emphasizes the need to use both clinical assessment and standardized testing of intelligence when diagnosing intellectual disability, with the severity of impairment based on adaptive functioning rather than IQ test scores alone. By removing IQ test scores from the diagnostic criteria, but still including them in the text description of intellectual disability, **DSM-V** ensures that IQ score are not over emphasized as the defining factor of a children's overall ability, without adequately considering functioning levels. This is especially important in forensic cases. It is important to note that IQ or similar standardized test scores should still be included in an individual's assessment. In **DSM-V**, intellectual disability is considered to be approximately two standard deviations or more below the population, which equals an IQ score of about 70 or below.

Children live in a social world comprised of different social matrices. If a child is affected with intellectual disability, it means there are chances that he or she learns and develops more slowly than other children of his/her age. Intellectually disabled children learn

more slowly than a typical child. They may take longer to learn language, develop social skills, and take care of their personal needs, such as dressing or eating. As their learning process is impaired thus they require more repetition to learn simple tasks. Virtually every child is able to learn, develop and become a participating member of the community. Unfortunately due to mental sub-normality, intellectually disabled children face great challenge in doing so, which is the biggest hurdle in their process of socialization and development.

Human beings are known as social animals and to become social one have to follow certain rules and norms of society. But children with intellectual disability got puzzled in their own world hence they become deficits in various skills needed for being a functioning member of society. Generally their whole world is limited to their home, school and neighbourhood. They lack various childhood experiences which are fundamental for development. Children's experience of in their social world is not a private activity; it is a social event that involves exchange of actions by themselves and other children or peers **(Corsaro, 1992)**.

Children teach each other through the behaviours of scaffolding during structured interactions, therefore shaping and directing their cognition. According to **Tharpe & Gallimore (1988)** when children scaffold each other, they use their knowledge of the situation to assist each other in the specific skill of the activity. This graduated assistance simplifies the task for a less capable child and allows them to master the specific skill with help. Children's friendships have predictable ups and downs. Yet the feelings of satisfaction and security that most children derive from interacting with peers outweigh periodic problems. For a number of children, however, peer relations are persistently problematic. Children with special needs are actively rejected by peers, others are simply ignored.

It is praise worthy to mention that at this juncture of time various techniques of rehabilitation are evolving and parents who are aware of them are trying their level best to avail latest and most beneficial rehabilitation facility for their children. But it is also true that children learn best through their own experiences, especially when it comes to socialization process. The important skill like of co-operation, mutual understanding and interpersonal communication can

be acquired with the help of peer. Thus forming close or satisfying relationships with peers should be of primary concern to parents and teachers.

Section-II

Background and Conceptual framework

2.1 Intellectual and Development Disability:

Historically, individuals with intellectual disabilities have faced discrimination in the education system for many years. Only recently, did the American Association on Mental Retardation officially change its name to the American Association on Intellectual and Developmental Disabilities. **Hardman, et al. (2011)** identify the most widely accepted definition of intellectual disabilities as characterized by significant limitations both in intellectual functioning and in adaptive behavior as expressed in conceptual, social and practical adaptive skills. This disability originates before age 18 **(AAIDD, 2009).**

2.2 Medical, Educational & Technological perspectives of Intellectual Disability:

2.2.1 Medical Perspective:

Individuals suffering from intellectual disabilities have limited ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly, and learn from experience. Intellectual disability is classified on the basis of four methods i.e. the severity of the condition, the educability expectations, medical descriptors and support needed. Common medical descriptors used for intellectual disability include fetal alcohol syndrome, chromosomal abnormalities, metabolic disorders and infection. Classification may also be based on needed support which can be classified as intermittent, limited, extensive and pervasive **(Hardman, et al., 2011).**

2.2.2 Educational Perspective:

Hardman, et al. (2011) pointed out that early identification of intellectual and developmental disability is imperative in early childhood order to provide the necessary supports to assist children. Current techniques in the areas of assessment have improved immensely and have the ability to give a head start to identify children in need. Three major

educational considerations for students in elementary school with intellectual and developmental disabilities are decreasing the student's dependence on others, emphasizing independence in the community and developing motor skills, self-help skills, social skills, communication skills and academic skills.

2.2.3 Technological Perspective:

Various assistive technologies for children with intellectual disabilities are communication, mobility, and environmental control, activities of daily living, education, employment and sports/recreation. Technology can reduce individual dependence on other **(Hardman, et al., 2011)**.

2.3 Characteristics of Children with Intellectual Disability:

The most obvious characteristic of the disabled is their reduced ability to learn, compared to their normal peers of the same chronological age. The intellectually disable individuals have difficulty in attending to a variety of stimuli; they are characterized as being easily distracted and possessing very short attention spans. The important of attention for learning in general is obvious. A child must be able to attend to the task beforehand and can be expected to learn. Disabled children usually take longer to learn the task. The intellectually disable individual is considered to have defects in short-term memory but not in long-term memory. The common characteristics of children with intellectual disability ageing between 6 - 18 are presented in **Table 2**:

Table 2: Characteristics of children with intellectual disability

Severity	Domains		
	Conceptual	**Social**	**Practical**
Mild	Preschoolers show no obvious conceptual differences. School-aged children show difficulties in acquiring academic skills (e.g., reading, writing, arithmetic, telling time, using money).	Communication and language are more concrete or immature than the skills of peers. Difficulty in accurately understanding the social cues of others.	In adolescence, assistance may be needed to perform more complex daily living tasks like shopping, cooking, and managing money.

Moderate	Preschoolers' language and pre-academic skills develop slowly. School-age children show slow progress in academic skills. Academic skill development is usually at the elementary school level.	The child shows marked differences in social and communicative skills compared to peers. Spoken language is simplistic and concrete. Social judgment and decision making are limited. Friendships with peers are often affected by social or communicative deficits.	The child needs more time and practice learning self-care skills, such as eating, dressing, toileting, and hygiene, than peers. Household skills can be acquired by adolescent with ample practice.
Severe	Little understanding of written language or numbers. Caretakers must provide extensive support for problem solving throughout life.	Limited spoken language skills with simplistic vocabulary and grammar. Speech may be single words/phrases. The child understands simple speech and gestures. Relationships are with family members and other familiar people.	Needs support for all activities of daily living: eating, dressing, bathing, elimination. Caregivers must supervise at all times. Some children show challenging behaviors, such as self-injury.
Profound	Conceptual skills generally involve the physical world rather than symbols (e.g., letters, numbers). Some visual-spatial skills, such as matching and sorting, may be acquired with practice.	Limited understanding of symbolic communication. Understand some simple instructions and gestures. Communication is usually through nonverbal, non-symbolic means.	Dependence on others for all aspects of physical care, health, and safety. Challenging behaviors, such as self-injury.

Source: APA (2013)

Children with the mild and moderate intellectual disability can also be considered as educable and trainable however most of children of severe and profound categories are

considered as custodial i.e. very difficult to educate and train various researcher done previously in this field highlighted that if mild and moderately disable children get appropriate early intervention then their limitation can be overcome and there are chances of marked improvement. According to **Daily, et al. (2000)** in early childhood, mild intellectual disability (IQ 50–69) may not be obvious, and may not be identified until children begin school. Even when poor academic performance is recognized, it may take expert assessment to distinguish mild intellectual disability from learning disability or emotional/behavioural disorders. Children with mild intellectual disability are capable of learning reading and mathematics skills to approximately the level of a typical child aged nine to twelve. They can learn self-care and practical skills, such as cooking or using the local mass transit system. As individuals with intellectual disability reach adulthood, many learn to live independently and maintain gainful employment. Moderate intellectual disability (IQ 35–49) is nearly always apparent within the first years of life. Speech delays are particularly common signs of moderate Intellectual Disability.

Children with moderate intellectual disability need considerable supports in school, at home, and in the community in order to participate fully. While their academic potential is limited, they can learn simple health and safety skills and to participate in simple activities. As adults they may live with their parents, in a supportive group home, or even semi-independently with significant supportive services to help them, for example, manage their finances. As adults, they may work in a sheltered workshop.

2.4 Peer Interactions: An Overview

Peers are defined as a group of children of similar age who spend time together on daily basis **(Corsaro, 1992)**. According to **Fogel (1993)** peer interaction is conceived of as a dynamic, complex process, consisting of mutually influencing child- and context-variables, which together determines the course of a specific interaction process**. Kindermann (2003)** reported that during peer interaction, children learn and practice interaction skills that are of crucial importance for their social, cognitive, and emotional development. The subject of peer

interaction is thoroughly studied within the field of developmental psychology research, ranging from the link between parent child interaction and child-peer interaction to the emergence of friendship; differences between boys and girls, and the development of specific interaction skills, such as emotion regulation **(Rubin, et al., 1998).**

Theorists in the field such as **Kagan (1994)** describe peer interaction as the organization of children into small groups that have varying abilities in which all children can participate to achieve a common goal. It is a very effective teaching strategy that motivates children to set higher goals and become intrinsically motivated. Researchers also believed that peer interaction benefits children in many ways, mainly in increasing their level of confidence, motivation and sense of achievement. A study of **Johnson et al. (2012)** in adults with moderate intellectual disabilities and limited symbolic communication pointed out their preference to interact with facial expressions, body language and touch. Almost all participants in this study demonstrated an interest in physical contact during peer interactions

2.5 Importance of Peer Interaction:

Interaction with peer is very important for the overall development of children. Through peer interactions children begin to establish a sense of "self" and also learn expect from them. When the children interact with others, children learn appropriate social behaviours, such as sharing, cooperating, and respecting the property rights of others. Similarly children who are disabled should not miss the opportunities to learn age appropriate social skills if they are trained in groups. Children who learn appropriate social skills often have a higher self-esteem and show a greater willingness to interact with their environment as they grow. Experienced through group activities or one-on-one friendships, they play an important role in children's development, helping them to master new social skills and become acquainted with the social norms and processes involved in interpersonal relationships. Positive peer interactions do not only facilitate development in the early years, but it helps in formation of positive self concept which is very crucial for one's personality.

2.6 Socialization and peer interaction of children with intellectual disability:

As children grow they develop in many ways, not only physically but also mentally and gradually with physical and psychological maturity they fabricate a persona which makes them compatible for living in this rapidly changing complex world. Socialization is the process by which human infants begin to acquire the skills necessary to perform as a functioning member of family and society, which is the most influential learning process one can experience. Though because of their special needs the socialization process of people affected with disability may vary a little but family teachers and peers as social agents plays a very significant role in the process of making special children socially acceptable and independent.

2.6.1 Role of family:

A family is considered to be the most important mediator of socialization. Disabled children are completely dependent on others to survive. Rearing a child with developmental deficits brings additional responsibility i.e. financial, time etc to the families which sometimes affect the whole lifestyle of parents. It is found in various studies that parents who shows positive attitude towards their children and make efforts to train their children with disabilities tend to have more independent children.

2.6.2 Role of school and teachers:

The purpose of school is to transfer subject knowledge and teach life skills. In school, children also learn social skills through interactions with teachers, staff, and other children. The teacher acts as a facilitator in school for motivation and group activities. If the teacher prepares a warm, happy environment, children are more likely to be happy. An environment set by the teacher can either be positive or negative. The children sense the mood of the teacher; if the teacher is angry, they may react negatively hence the learning is impaired.

2.6.3 Role of peers:

Play gives children the opportunity to be creative, develop their verbal skills, and learn how to get along with their peers. Skills that children learn during play include sharing,

negotiating, resolving conflicts, and making decisions. Children with disabilities and developmental delays often lack the skills they need to enter into and maintain play with others.

Teachers, parents, and peers all provide children with suggestions and feedback about what they should think and how they should behave in social situations and also, it is believed that peers, as well as parents, siblings, and teachers, all play a large role in how children's function in everyday living.

2.7 Peer Relation:

Children begin their lives in the social world of their families; however, as they mature they are introduced to the social world of peers and spend increasing amounts of time with children of their own age. Peer relationships in early childhood are essential to concurrent and future psychosocial adjustment. The types of relationships they form differ from those they have with parents and siblings and teach them unique skills that affect their development. Peer relationships are more balanced and the partners tend to bring similar levels of ability, reasoning and skill to their interactions. The basic aspect of peer relationships is individuals' socially exchanging information over a period of time. Typically, these interactions are dyadic in nature, only involving two members and have a reciprocal interdependent style. Peer relationships are imbedded in the large peer group, which has its own set of interaction rules, hierarchy, and cohesiveness. **Guralnick (1992)** stated that when young children with disabilities are placed in inclusive settings, teachers and parents report that many children do develop friendships with their typically developing peers. During relationships with peers, children develop skills such as problem-solving, initiating and maintaining conversations and interactions, and cooperating with each other **(Hartup & Moore, 1990)**.

2.7.1 Difficulties faced by Intellectually Disabled children in forming and maintaining peer relation:

Children with intellectual disabilities, who are often impaired in several of the above-mentioned basic skills, tend to perform low on social dimensions than their typically developing peers. In particular, children with very limited or no communication skills, limited social skills and tend to have inadequate behaviours, interact less with peers, and as a result less accepted by their peers. Even children who display no disabilities, one of the chief factors associated with peer relationship difficulties is behaviour. Children who are aggressive, hyperactive, quiet, introvert, shy etc. often face greater peer rejection.

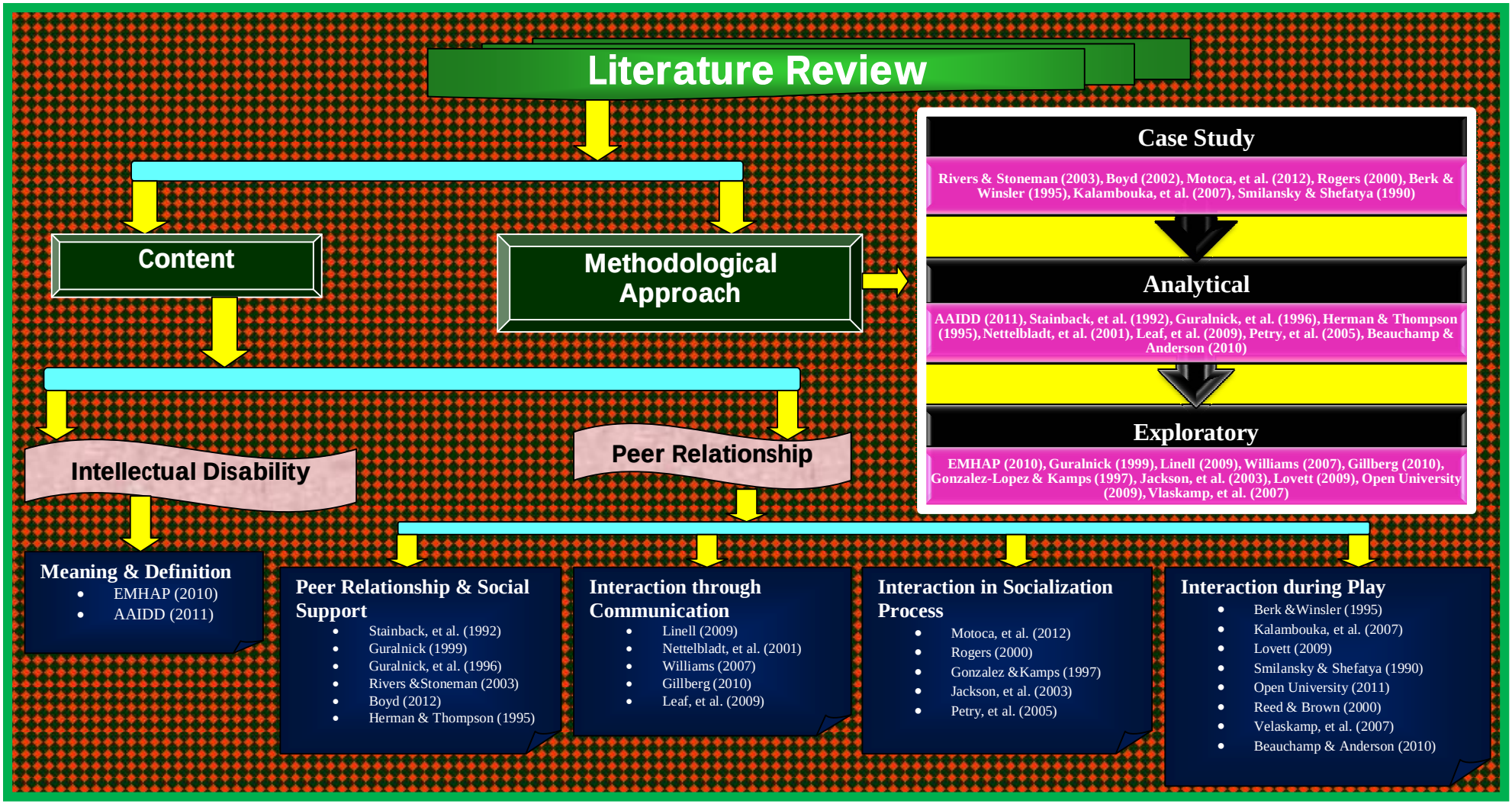
The relationship between aggressive behaviour and the experience of peer rejection may vary according to gender, developmental period and peer group. Aggressive children may also be more popular when they belong to a group of children who are supportive towards aggressive behaviours, and may not appear to have difficulties making friends among similarly aggressive friends. Still, the absence of prosocial behaviour, rather than the presence of aggression, may promote peer rejection. Shy and withdrawn children also experience peer relationship difficulties, although these are more likely to occur later than the early years. Over the short term, problematic peer relations are associated with peer rejection. Among other things, peer conflict and rejection can hold back children's motivation for classroom activities. Children who have friends in the classroom and who are accepted by their peers are generally more motivated to participate.

Over the long term, early peer relationship difficulties are correlated with a variety of adjustment problems in young children, such as school dropout, delinquency and emotional problems, such as loneliness, depression and anxiety. Yet the evidence for long-term consequences of peer difficulties experienced in the early years is limited, as other potential causes like- personal or environmental factors have not been ruled out. Thus it can be concluded that early friendships and positive relations with the peer group appear to protect at-risk children against later mental problems.

Section-III

Review of Literature

Figure 1: Review of literature based on Content and Methodological Approaches


Literature Review
Content
Methodological Approach
Case Study
Rivers & Stoneman (2003), Boyd (2002), Motoca, et al. (2012), Rogers (2000), Berk & Winsler (1995), Kalambouka, et al. (2007), Smilansky & Shefatya (1990)
Analytical
AAIDD (2011), Stainback, et al. (1992), Guralnick, et al. (1996), Herman & Thompson (1995), Nettelbladt, et al. (2001), Leaf, et al. (2009), Petry, et al. (2005), Beauchamp & Anderson (2010)
Exploratory
EMHAP (2010), Guralnick (1999), Linell (2009), Williams (2007), Gillberg (2010), Gonzalez-Lopez & Kamps (1997), Jackson, et al. (2003), Lovett (2009), Open University (2009), Vlaskamp, et al. (2007)
Intellectual Disability
Peer Relationship
Meaning & Definition
EMHAP (2010)
AAIDD (2011)
Peer Relationship & Social Support
Stainback, et al. (1992)
Guralnick (1999)
Guralnick, et al. (1996)
Rivers &Stoneman (2003)
Boyd (2012)
Herman & Thompson (1995)
Interaction through Communication
Linell (2009)
Nettelbladt, et al. (2001)
Williams (2007)
Gillberg (2010)
Leaf, et al. (2009)
Interaction in Socialization Process
Motoca, et al. (2012)
Rogers (2000)
Gonzalez &Kamps (1997)
Jackson, et al. (2003)
Petry, et al. (2005)
Interaction during Play
Berk &Winsler (1995)
Kalambouka, et al. (2007)
Lovett (2009)
Smilansky & Shefatya (1990)
Open University (2011)
Reed & Brown (2000)
Velaskamp, et al. (2007)
Beauchamp & Anderson (2010)

3.1 Intellectual Disability:

3.1.1. Meaning & Definition:

According to **AAIDD (2011)** children with this disability experience significant limitations in two main areas: - intellectual functioning and adaptive behavior. These limitations are expressed in the children's conceptual, social and practical everyday living skills. A number of children with intellectual disability are mildly affected, making the disability difficult to recognize without visual cues. Individuals with intellectual disability who are provided appropriate personalized supports over a sustained period generally have improved life outcomes.

Intellectual disability means a significantly reduced ability to understand new or complex information and to learn and apply new skills. This results in a reduced ability to cope independently, and begins before adulthood, with a lasting effect on development **(European Mental Health Action Plan, 2010)**. The use of the term intellectual disability in the context of the WHO initiative "Better health, better lives" includes children with autism who have intellectual impairments. It also encompasses children who have been placed in institutions because of perceived disabilities or family rejection and who consequently acquire developmental delays and psychological problems. Intellectual disability is characterized by significant impairment in cognitive and adaptive behavior. The term used to describe this condition has gone under constant change over the years due to social and political compulsions.

3.2 Peer Interaction/Relationship:

3.2.1 Peer Relationship & Social Support:

Stainback, et al. (1992) stated that peers can act as role models offer friendship, advice and information, promote a sense of belonging and empower one another. However, peer relationships tend to involve greater reciprocity and mutuality, encouraging each participant to be the giver as well as the receiver of supports. Children can discover their potential to

participate in academic opportunities and careers by interacting with others with similar interests and concerns.

It is important to point out that most of these peer interaction and peer relationship difficulties are evident when controlling for a child's developmental level. Observations of young children with intellectual delays during interactions with peers reveal a pattern of social interaction that is likely to have contributed to these peer relationship and friendship difficulties **(Guralnick, 1999)**. Most apparent is the absence of appropriate social strategies children use to achieve their interpersonal goals, such as gaining entry into playgroups, sustaining play sequences with peers in the face of the many changing demands that inevitably occur, and resolving conflicts that are frequent occurrences in the play of all children. The development of friendships, characterized by a reciprocal relationship between children, has been a uniquely difficult challenge for young children with intellectual delays. Less than half can identify a "best friend" and, when participating with peers in short-term playgroups, infrequently display patterns of social interactions that would qualify as a reciprocal friendship **(Guralnick, et al., 1996).**

According to **Rivers & Stoneman (2003)** mothers are more likely to first seek support from families and friends, as sources of informal support are more effective at reducing stress than sources of formal support. Access to social support has been related to positive family and child outcomes in families of children with a disability. **Boyd (2002)** stated that social support can come from various areas of society, for example from a spouse, grandparents, other family members, other parents, friends and professional agencies. Mothers tend to first seek support from other family members, as informal sources of support are believed to be more effective at reducing stress than formal sources. For mothers of children with autism, the most useful source of formal support appears to be parent support groups, where they are free to discuss their concerns among other parents who understand the problems firsthand. **Herman & Thompson (1995)** concluded that family assistance can be one of the most useful sources of support, as families may be more willing and able to provide instrumental and financial assistance. Family

respite care and financial supports are some of the most frequently identified services that family support networks are able to provide.

3.2.2. Interaction through Communication:

According to **Linell (2009)** communication skills emerge and develop in social interactions before they can be used as strategies in individual learning. From the Vygotskian perspective follows the picture of social communication being a joint venture characterized by reciprocity and co-construction, in which both peer rely on each other and are mutually dependent in shaping each other's context. Therefore, it is important to identify conditions that enhance, promote and motivate the child to develop his/her communication skill. **Nettelbladt, et al. (2001)** pointed out that the way the conversational peer acts will affect how the child with talking problems contributes to the dialogue.

Williams (2007) concluded that peer interaction can be viewed as a platform for sharing experiences and co-learning in adopting others' perspectives, which is essential for both social and cognitive development. According to **Gillberg (2010)** problems can also occur in combination with other problems often referred to as co-morbidity. It is well known that there is an overlap or sharing of symptoms across disorders identified during childhood. **Leaf, et al. (2009)** evaluated the effectiveness of a special intervention aiming to increase social skills and pro-social behaviour in children diagnosed with autism. The intervention, called teaching interaction procedure, was based on reinforcement and priming in targeting four social behaviours: like-conversation, play, emotional skills and choosing the same friend throughout the day.

3.2.3. Interaction in Socialization Process:

Motoca, et al. (2012) found that positive peer interactions and perceptions are for children's mental health, especially relating to lower levels of social concern. Families should work to increase opportunities for their children to build positive and supportive friendships and encourage their children to engage with peers. Families also should work with their clinicians to help children build social skills. The ultimate goal with social skill training is for children to be able to interact appropriately in their natural social contexts thus, using peers to teach social

skills precludes the additional steps required to transfer teach to interactions with peers **(Rogers, 2000)**. Peers do not typically interact with children with autism. Furthermore, children with autism are not likely to attend, to the behaviour of peer models, which results in scant learning. Therefore, children's expectancies regarding their peers with autism must be altered to promote efforts to interact with and gain the attention of the children with autism.

Gonzalez-Lopez & Kamps (1997) combined several approaches for increasing the interactions of children with autism. First, peers were given information about disabilities and were taught behaviour management skills, including giving easy instructions, prompting, reinforcing, and ignoring disruptive behaviours. The peers and the children with autism were then taught how to use greetings, how to initiate play, conversation strategies, and imitation, how to follow instructions, how to share, turn taking, how to ask for help, and how to request things. During the last condition, teachers reinforced interactions by using a star chart. Poor attending to the environment an undisputed area of deficit for children with autism, and change in that alone would be a positive step toward socialization. An early study concluded by **Jackson, et al. (2003)** children with Autism generally respond more positively to adult than children. This factor may be the result of interaction with adults cantering on need fulfilment and not being purely social, as is the case when interacting with other children.

During child–child interactions, children learn skills and attitudes that cannot be attributed to the parent–child relationship. Parents of children with profound intellectual and multiple disabilities mention social interactions and relations as a core indicator of the quality of life **(Petry, et al., 2005)**.Because of their physical, cognitive, and communicative limitations they do not often show behaviours such as waving, smiling or pointing that draw attention from other people and initiate social interactions.

3.2.4. Interaction during Play:

According to **Berk & Winsler (1995)** children with difficulties should be included as much as possible in the regular activities of the primary culture". With inclusive education, children with special needs have the opportunity to interact with peers in a general educational

setting. According to **Kalambouka, et al. (2007)** more and more schools districts around the world are choosing to use an inclusive model to the impact of including children with special needs into the regular classrooms.

Lovett (2009) stated that traumatized children, who lose their ability for creative play, do not have full access to their problem-solving capabilities, which can make social situations difficult for them. During the school hours children interact with their peer, friends and teachers. These are create a local community or positive social environment for children so the children learn how to survive and behave in own community. Play provides opportunities to interacting others and learns to plays social roles in their home, school and community. Children learn many concepts and skills which they see their peer and teachers doing in class and school. **Smilansky & Shefatya (1990)** suggested that school success largely depends on children's ability to interact positively with their peers and adults.

According to **Open University (2011)** playing with other children affects the ways in which children relate to each other, form groups, and own party or Ganges and feel part of a group or part of their own community. When children play they use their own key words which are used as a language. Play helping children to learn wait for turning, sharing ideas and materials, respond with their peer while playing. **Reed & Brown (2000)** found that the parents provide opportunity and space for play that helps to children development as well as promotes better relationships with others.

Vlaskamp, et al. (2007) pointed out that in day activity centres in the Netherlands, persons with profound intellectual and multiple disabilities spent almost 30% of their time to group activities with other persons with profound intellectual and multiple disabilities. In only 13% of the time, individual activities were provided. Group activities can be an excellent opportunity for persons with PIMD to meet their peers and to interact with each other. By sharing a common experience, such as a group activity, friendships may arise **(Beauchamp & Anderson, 2010)**.

Section - IV

Rationale and Research Methodology

4.1 Need of the study:

According to **Sigman & Ruskin (1999)** one of the most important tasks for socialization in early years is interacting with peers. During early and middle childhood, typical peer interactions include playing in groups, initiating play with a peer, maintaining play with a peer, requesting items, engaging in imaginative play with a peer, and forming friendships. But intellectually disable children lack these experiences because their environment is merely restricted to home and school and in both places parent & teachers plays major role in controlling the environment. **Celeste (2006)** stated that children with disabilities receive fewer positive responses to their social bids or attempts to engage in social interactions and, as a result, demonstrate less interest in their peers, which makes them more prone to social isolation. The present study will be a modest attempt in the direction of peer interaction of children with intellectual disability:

4.1.1 Although lots of work had been done in the area of intellectual disability but the researcher has not came across any study which is especially designed to explore or enhance the quality of peer interaction among children with intellectual disability.

4.1.2 All the previous studies in the area of intellectual disability were restricted to the role of family and institute in the process of socialization, education and training of children, on the other hand role of peers seems to be neglected, hence the researcher intends to investigate role of peers in socialization of children with intellectual disability.

4.1.3 In Indian scenario the activities conducted in most of special schools and rehabilitation centers are centered around the process of developing independence, rehabilitation and vocational training of children with intellectual disability for some gainful employment, hence most of the activities are based on skills needed for employment. Therefore, intervention to improve peer interaction at this crucial

age will be of great help in making children socially acceptable.

4.2 Justification of the problem:

Lack of the ability to maintain interpersonal relationships and to conflict resolution with co-workers is a natural outcome of poor adaptation skills. Interaction with peers in early ages makes the process of social adaption easier. Children with mild and moderate intellectual disability can be trained to improve the quality of peer interaction which will be of great help in forming and maintaining positive interpersonal relationship in later life and ultimately improve the quality of life.

Hence, researcher intends to design and implement an intervention programme for improving the quality of peer interaction among the children with Intellectual disability which can be helpful in their rehabilitation.

4.3 Statement of the problem:

The proposed statement of the problem is:-

"Enhancing Peer Interaction among Children with Intellectual Disability"

4.4 Operational Definitions:

1.	**Intellectual Disability**	According to **IDEA (2011)** intellectual disability is significantly sub average general intellectual functioning, existing concurrently (at the same time) with deficits in adaptive behavior and manifested during the developmental period, that adversely affects a child's educational performance
2.	**Intellectually Disabled Children**	Children who cannot achieve their full potential as per their age, due to intellectual limitation.
3.	**Peer**	Group of children of same chronological age who spend time together on a daily basis.

4. Peer Interaction	The verbal or activity based engagement with one or more children of same age group.
5. Perception:	The way, in which something is regarded, understood or interpreted.

4.5 Objectives:

The objectives of the proposed research are:

1. To assess the peer interaction among children with intellectual disability.
2. To assess the perception of teachers and parents regarding peer interaction of intellectually disabled children.
3. To identify the problems faced by teachers and parents in enhancing peer interaction.
4. To design and implement intervention programme in order to enhance peer interaction among intellectually disabled children.
5. To study the impact of intervention programme.
6. To assess the suitability of the educational programme
7. To disseminate information for future use.

4.6 Methodology:

4.6.1 Sampling Design:

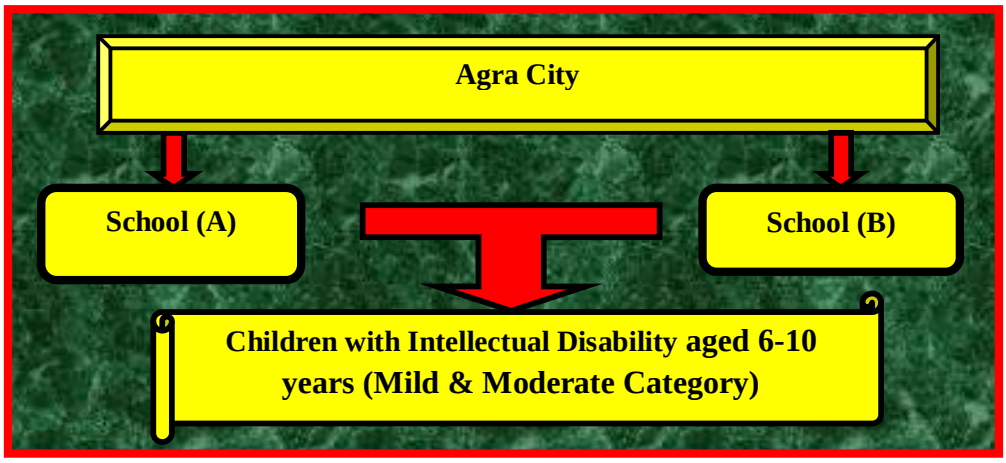
4.6.1.1 Locale of the study:

Agra city will be purposively selected as the locale of study.

4.6.1.2 Selection of Special School:

Two special schools located in Agra City will be purposively selected for the proposed study (as shown **Figure 2**).

Figure 2: Distribution of Sample



4.6.1.3 Selection of Subjects:

In both selected special schools children are already classified on the basis of degree of severity. Criteria used for classification is IQ test, Weschelers's Intelligence Scale for Children (WISC-V), and performance of student in various tasks. Hence, researcher will select 40 children aging between 6-10 years, falling in mild and moderate categories as sample. Children who will participate in the whole intervention programme will be considered as final sample for the present study.

4.6.1.4 Sampling Technique:

Selection of the sample will be done purposively.

4.6.2 Operational Design:

Operational design deals with the variables of the proposed study, procedure of research and provides operational guidelines to attain the research objectives.

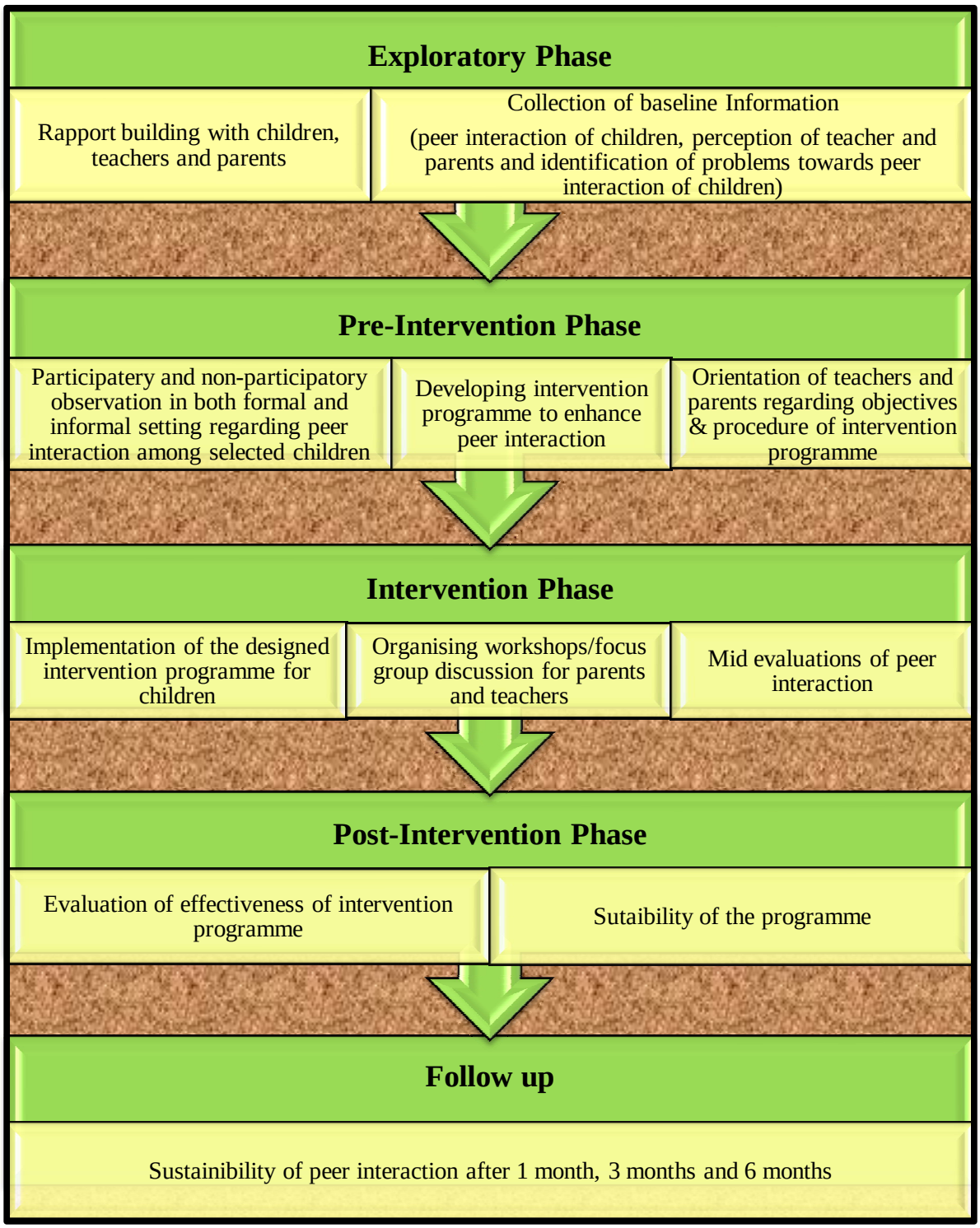
4.6.2.1 Variables:

- **Independent Variable**: Age, gender, degree of severity and family background.
- **Dependent Variable**: Peer Interaction and parental/teachers perception regarding peer interaction.

4.6.2.2 Procedure of the study:

To achieve the research objectives, the study will be conducted in five phases i.e. Exploratory phase, Pre-Intervention phase, Intervention phase, Post-Intervention phase, and Follow-up phase. Overview of each phase in given in **Figure 3**:

Figure 3: Phases of Research


Exploratory Phase
Rapport building with children, teachers and parents
Collection of baseline Information (peer interaction of children, perception of teacher and parents and identification of problems towards peer interaction of children)
Pre-Intervention Phase
Participatery and non-participatory observation in both formal and informal setting regarding peer interaction among selected children
Developing intervention programme to enhance peer interaction
Orientation of teachers and parents regarding objectives & procedure of intervention programme
Intervention Phase
Implementation of the designed intervention programme for children
Organising workshops/focus group discussion for parents and teachers
Mid evaluations of peer interaction
Post-Intervention Phase
Evaluation of effectiveness of intervention programme
Sutaibility of the programme
Follow up
Sustainibility of peer interaction after 1 month, 3 months and 6 months

4.6.2.2.1 Exploratory phase:

In this phase the researcher will visit selected special schools and establish rapport with children as well as with teachers and parents. All the baseline information regarding peer interaction, perception of parents and teachers towards peer interaction among special children and problems faced by teachers and parents in enhancing peer interaction among children will be collected. Checklist will be used as a tool to assess the peer interaction among children. Questionnaires in Hindi language will be used for assessment of parents' and teachers' perception regarding interaction of children and for identifying problems faced by teachers and parents in enhancing peer Interaction.

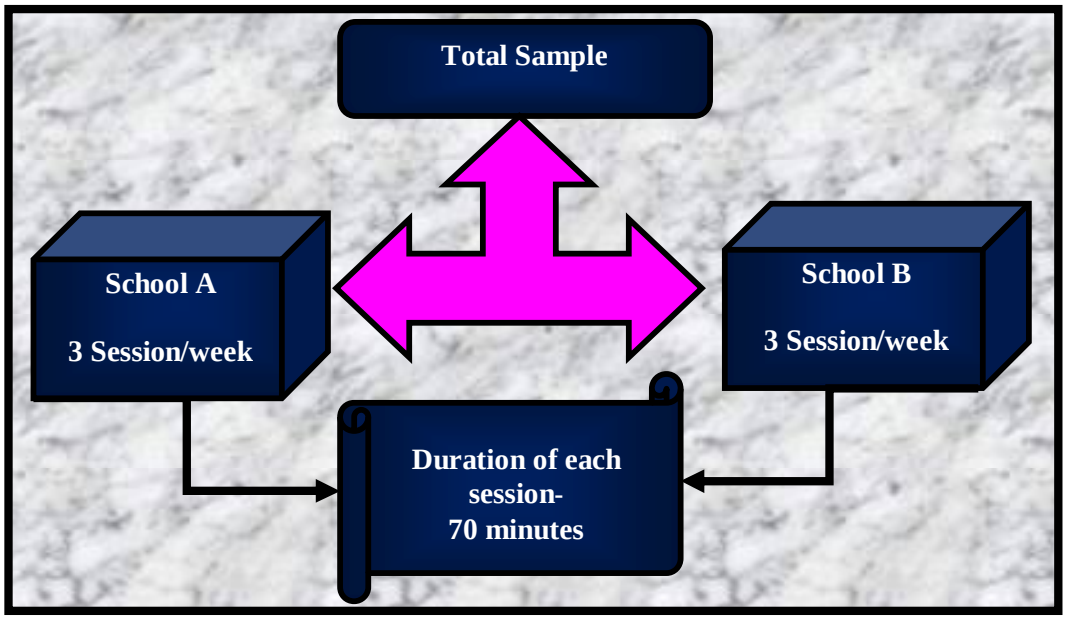
4.6.2.2.2 Pre-Intervention phase:

In the pre-intervention phase researcher will observe the peer interaction skills of selected intellectually disabled children with the help of both participatory and non-participatory observation in formal as well as non-formal settings. The total duration of observation period will be 7 days for each selected school. All the resources required for conducting activities in intervention period will be designed and organised in this phase. Researcher has already taken consent of school authorities regarding participation of teachers in intervention programme thus workshops for teachers and parents in will be done to prepare them for implementation of the activities designed for intellectually disabled children for enhancing peer interaction. Identification of resource persons for workshops/focus group discussions will be done in this phase.

4.6.2.2.3 Intervention phase:

This will be an action oriented phase; the expected duration of intervention phase will be 6 months. The main objective of intervention phase is to equip children with skills to enhance peer interaction. Sample for the study is will be taken from two special schools hence two groups will be formed. Each group will be visited three times in a week. The duration of each session will be 70 minutes therefore the duration of intervention for each school per week will be 3 hours/week.

Figure 4: Detail of intervention session



Workshop will be organized in the starting of every month for teachers; orientation of activities will be given to them for facilitating and reinforcing peer interaction. Discussion with parents and teachers will be done at the end of every month. Changes in the behavior of children will be discussed with parents. The major objective of discussion with teachers will be identification of issues faced by teachers while working on enhancing peer interaction.

The mental sub normality of intellectually disabled children interferes with learning and memorizing processes thus very simple activities will be introduced to improve peer interaction among children. The researcher will swap children of dyad and different groups so that all the selected children will get an opportunity to interact with each other. On the basis of observation done in pre-intervention phase researcher will identify peer preferences of every child. Activities of intervention phase will be designed in such manner that along with their favourite peer, children will positively get into touch with those peers with whom they have less or no interaction at all.

The main domains of peer interaction will be interpersonal communication and co-operation. Each domain will have its specific objectives for the intervention period. Activities for the intervention will be based on the objectives of all domains and one activity may cover

more than one domain at a time. Details of domains for peer interaction and objectives of various domains are given in **Table 3**:

Table 3: Domains for Enhancing Peer Interaction

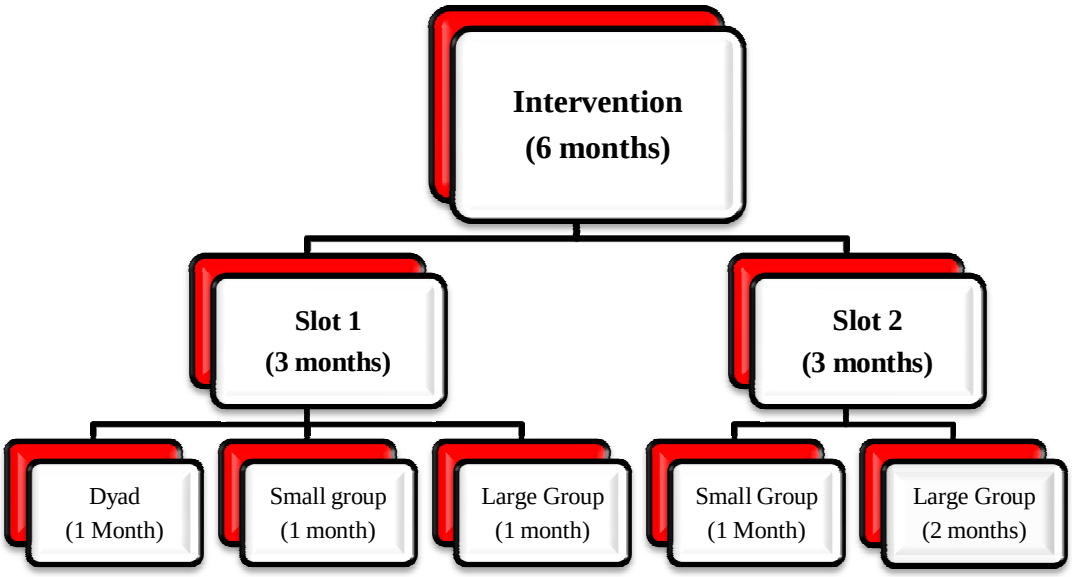
S.No.	Domains of Peer Interaction	Objectives
1	**Interpersonal Communication**	• Greeting &Initiating conversation with peers • Expressing ones likes and dislikes and understanding others • Experience sharing with peers • Identifying peers with similar interest • Formulating groups for different activities
2	**Co-operation**	• Understanding the concept of team • Becoming part of a team • Understanding other's perspectives • Fulfilling small tasks in group • Taking leadership roles • Following leader's instruction • Empathy • Waiting for their turn

Intervention phase will be divided into two slots; the duration of each slot will be 3 months. The first slot will further be divided into 3 sub phases, duration of each sub phase will be one month. In the first month activities will be conducted in dyads, two activities will be introduced in one week and repeated with different peers in all session of that week. Hence, 8 activities will be introduced in one month. In second month all the previously introduced activities will be repeated in small group, formation of group will change in each week and child will repeat activities with different peer. In third month all activities will be repeated in large group and again in large group peer will be changed in each week.

New activities will be introduced in this phase and two activities will be conducted in one week hence 8 new activities will be introduced in second slot of intervention. The slot will further be divided into two sub phases, in first sub phase activities will be conducted in small

group and duration of first sub phase will be one month. In second sub phase previously introduced activities will be repeated in large group, duration of second sub phase of this slot will be two months. Teacher student ratio will be 1:4 for dyads and small group and 1:5 for large group. The outline of intervention phase is given in **Figure 5**.

Figure 5: Detail of intervention Plan



Duration of each session will be 70 minutes and two activities introduced in on session. In the starting of every activity 10 minutes time will be given to the researcher/teacher to explain the activity to children with the help of demonstration. 20 minutes will be given to children to perform the activity; researcher/teachers will also actively participate in the activities. After finishing one activity 10 minutes break will be given to children before starting new activity. The selected activities are simple and easy to understand and activities which children liked most will be repeated. In case most of children don't respond to any particular activities, new activity will be introduced in that particular session. The detailed action plan for one month activities is given in **Table 4**.

Table 4: One month action plan for intervention phase

<table>
<tr><td rowspan="3">1 Month</td><td colspan="3">Week- 1</td><td colspan="3">Week -2</td><td colspan="3">Week -3</td><td colspan="3">Week -4</td></tr>
<tr><td>Session 1</td><td>Session 2</td><td>Session 3</td><td>Session 1</td><td>Session 2</td><td>Session 3</td><td>Session 1</td><td>Session 2</td><td>Session 3</td><td>Session1</td><td>Session 2</td><td>Session 3</td></tr>
<tr><td colspan="3">Activity in Dyad</td><td colspan="3">Activity in Dyad</td><td colspan="3">Activity in Dyad</td><td colspan="3">Activity in Dyad</td></tr>
<tr><td></td><td colspan="3">• Imitating
• Relay Race</td><td colspan="3">• Car and Driver
• Constructive Play</td><td colspan="3">• Passing Toy
• Treasure Hunt</td><td colspan="3">• Make the Statue Laugh
• Singing & Dancing</td></tr>
<tr><td></td><td colspan="12">Note:

➢ Activities
• Duration of each session will be 70 minutes and two activities introduced in one session. In the starting of every activity 10 minutes time will be given to the researcher/teacher to explain the activity to children with the help of demonstration. 20 minutes will be given to children to perform the activity. After finishing one activity 10 minutes break will be given to children before starting new activity.
• The selected activities are simple and easy to understand.
• Activities which children liked most will be repeated.
➢ Formation of Groups
• Dyad:
✓ Two activities will be done in dyad
✓ Swapping of peers will be done after every session.
• Small group:
✓ Number of participants for small group will be 2-4
✓ After each week formation of group will be changed.
• Large group activities:
✓ Number of participants for large group will be 5-10
✓ After each week formation of group will be changed.</td></tr>
</table>

Table 5: Procedure of activities for first month of intervention

S. No.	Activity Name	Group Composition	Procedure
1	**Imitating**	Dyad	With the help of props (pictures depicting emotions) children will be asked to identify and express their emotions (For example: if the child holds picture of a laughing man, he/she has to act like that) Likewise emotions like anger, pleasure, suspicion etc., will be enacted by children.
		Small & Large	Activity will be repeated in small group and large group with slide modifications.
2	**Relay Race**	Dyad	Children will be asked to identify location of their partner and pass a ball by throwing/kicking to the partner. Once the child will give ball to its partner then he/she will stand anywhere in the room and this time partner will bring the ball to him/her by kicking or throwing. Activity will be repeated in whole session.
		Small	In a group of four children one child hold the ball and other three children will stand in different location. The child who holds the ball will get ball to any of its partner by kicking/throwing. Once other child get the ball then both children take that ball to other child and at last three children take the ball together to the last child of their group. Activity will be repeated till all children will get opportunity of ball holder in first position.

		Large	Activity will be introduced in large group with slide modifications.
3	**Car and Driver**	Dyad	A child will become car and another one will become driver. On the basis of colour of their batches, child has to select its car/driver. The car will go to the driver and will say "look at our batches, I am your car and you are my driver, come lets go for a drive", once the car will find its driver then, they will go for race and after finishing the race the car will become driver and the driver will become car and again they will race with other car. After finishing the race both children will sit together and share their experiences of becoming car/driver and winning/loosing race.
		Small & Large	Activity will be repeated in small group and large group with slide modifications.
4	**Constructive play**	Dyad	Choice will be given to each child in a dyad to construct any one of the selected object with the help of blocks (Castle or spaceship or house or train etc.) Material will be provided to children and each child has to prepare the object in the given time frame. After completion of the activity children will be asked about how they did the prepared the object by other child.
		Small	Object will be prepared in dyad and each child will be asked which part of object is prepared by them and how?
		Large	Children have to construct objects given in a picture, though each child will prepare its own object but at the end they will compile their object to make it look like the picture (For example: image of city

			(buildings, trains, malls, school etc.) each child will prepare one object individually (one child will make building and other will make train) and at the end they will put things in the same manner it is given in the picture to make it look like the same). At the end of activity each member will be asked about its contribution by other group.
5	**Passing toy**	Dyad	Children will pass ball while singing rhyme, the child who holds the ball when rhyme finishes will have to tell other child about its favourite cartoon, movie, animal etc. Activity will be repeated several times in the same session.
		Small	All children have to sit in a circle and one toy will be given to a group. Children sing the rhymes and move toy from one child to another. The child who holds the toy when the rhyme will be finished will have to tell the group about their favourite cartoon character and its best friend (Ex- Chota bheem- Chutki, Nobita – Dorimon etc).
		Large	Repetition of activity in large group
6	**Treasure hunt**	Dyad	Researcher/Teacher will give a paper containing images of the objects to each dyad and children will be asked to search those objects everywhere that room. One child will hold picture and other will carry a basked in which they have to put things. In second round the child who hold picture in earlier round will hold basket and other one will hold picture and activity will be repeated.

		Small & Large	Children will be asked who wants to become leader first and the child who will become leader will hold the paper containing images and whole team will hold objects which they will find. Activity will be repeated in such manner that every child will get opportunity to become leader.
7	**Make the statue laugh**	Dyad	One child will be asked to remain calm and other will be asked to make him/her laugh by making funny faces, cracking jocks etc. Researcher/teacher will help the child in doing so. Once the child laugh he/she has to make other child laugh now.
		Small	Game will be played in a group of 4, 3 children will be asked to become statue and one child will be asked to make them laugh by making funny faces or cracking jocks. The child who laughs will join the child who is making others laugh. Once the child finish task of making all children laughs, the activity will be restarted and the child who laughed earliest will have to make others laugh now.
		Large	Repetition of activity in large group
8	**Singing & dancing**	Dyad	In a dyad one child will be asked to recite a rhyme and other child will perform actions (rhyme very familiar to all children will be identified by researcher and parents will be asked beforehand to prepare their children for performance). After one rhyme other child will recite the rhyme and the one who recited rhyme will perform action. Activity will be repeated at least 4-5 times in one session.

		Small	In a group of four children two children will sing (children song taught to children with the help of videos like- nani teri morni ko mor le gye, bum-bum bole masti mai dole etc. beforehand with the help of parents at home) and another two will dance. After finishing one song, one child who was dancing will join the one who was singing and one who was singing will join the one who was dancing. The child whose turn is for dancing will request for its favourite songs (choice will be given among few children songs) and the Singing group have to sing that song. Again after finishing the song children will be shuffled. Activity will continue till every child will request for its favourite song and dance.
		Large	Repetition of activity in large group (Children will be asked to choose their favourite song and 3 or 4 small groups will be formed and all children who selected one song will dance at one time and other will sing. After finishing one song one group will sit and another group will dance.)

Children's responses towards activities, swapping peers and exposure to large group will be recorded with the help of checklist at the end of each session by researcher and teachers. Mid evaluations of peer interaction in classroom settings among children with intellectual disability will be done after every two months during intervention phase, as the expected duration of intervention programme is 6 months, hence 2 mid evaluations will be done at the end of 2^{nd} and 4^{th} month. Video recording of the activities will be done to get more accurate picture of change in the peer interaction; researcher has already taken the consent of parents and school administration for the same.

4.6.2.2.4 Post-Intervention phase:

Evaluation of impact of intervention will be done in post intervention phase. Tools to assess the peer interaction and perception of parents and teachers regarding interaction of children with their peers will be re-administered. Changes in the peer interaction and perception of parents and teachers regarding peer interaction will be measured by comparing the scores with earlier ones i.e. scores obtained during exploratory phase. The feedback regarding suitability of the intervention programme from teachers and parents will also be taken at this phase.

4.6.2.2.5 Follow up phase:

At the end of intervention phase, researcher will handover a kit of activities designed for enhancing peer interaction among children. The kit will contain material for activities, a manual which contains more information about suggested activities to enhance peer interaction, detailed procedure of activities and tasks for parents and teachers for each activity. Researcher will also request school authorities to inculcate these activities in their school curriculum at least twice a week.

Sustainability of activities to enhance peer interaction will be assessed via physical visits to school. Persistence of peer interaction among children after 1 month, 3 months and 6 months will be assessed via applying checklist to assess the peer interaction. To assess the changes in peer interaction among children, scores obtained in follow up phase will be compared with the scores of post evaluation phase as well as with the scores of previous follow-up phases.

For the purpose of disseminating information researcher will develop a manual for enhancing peer interaction among mild and moderate intellectually disabled children. Along with above newspaper articles and pamphlets etc. will also be published to circulated information in mass population.

4.6.3 Observational Design:

4.6.3.1 Techniques of data collection:

Observation, checklist for peer interaction and questionnaire for identification of problems and perception towards peer interaction will be used for data collection in the present study.

4.6.3.2 Research Tool:

Self-constructed tools will be administered to fulfil the research objectives enlisted in **Table 6**.

Table 6: List and details of the tools to be used in the proposed study

Assessment and Evaluative Tools			
Name of the Tools	**Type of Tools**	**Components**	**Administration of Tools**
To assess the peer interaction	Checklist (In classroom setting)	• Interpersonal Communication • Co-operation	• Exploratory phase • 2 Mid intervention phase (2^{nd} & 4^{th} months) • Post intervention phase • 3 Follow-up phase (1 month, 3 months & 6 months)
	Checklist for recording peer interaction during conduct of activities by researcher/teachers	• Responses towards Peers • Exposure to large Group	At the end of each session
Perception of parents and teachers towards peer interaction of children	Questionnaire	• Communication • Socialization • Mutual Support • Interpersonal Relationship	• Exploratory phase • Post intervention phase
Identification of problems faced by teachers and parents in enhancing peer interaction	Questionnaire	• More emphasis on education • Social acceptance • Children's lack of interest • Unawareness regarding importance of peer interaction	Exploratory phase

Suitability of educational programme	Individual Feedback Form	• Effectiveness of programme • Suitability of the programme	Once during Post intervention phase

Educational Tools	
Name of the Tools	**Type of Educational Tools**
Activity kit for Enhancing Peer Interaction	• Picture • Real Objects • Audio • Video
Workshop for parents/teachers	• PPT • Demonstration
Information Materials for Parents and Teachers	• Pamphlet • Manual • News Article

4.6.4 Statistical Design:

The information collected on peer interaction of intellectually disabled children, perception of parents and teachers regarding peer interaction of children and identification of problems faced by parents and teachers in enhancing peer interaction will be presented and analysed with the help of following tables and statistical tools respectively.

- Percentage
- Arithmetic Mean
- Standard Deviation

Further analysis of data will be determined on the basis of type and nature of data obtained.

4.7 Delimitations of the study:

- The proposed research will be a single researcher study.
- The sample will include children only in the age group 6-10 years.
- Children with mild and moderate intellectual disability from the selected special schools will be selected as sample for the proposed study.

Section-V
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